MEDICAL RECORD

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The healthy know not of their health, but only the sick; this is the physician's Aphorism.

—*Thomas Carlyle*

NOVEMBER 1948

Vol. 161.

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NOVEMBER, 1948

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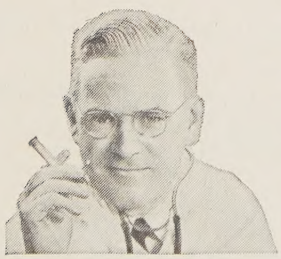

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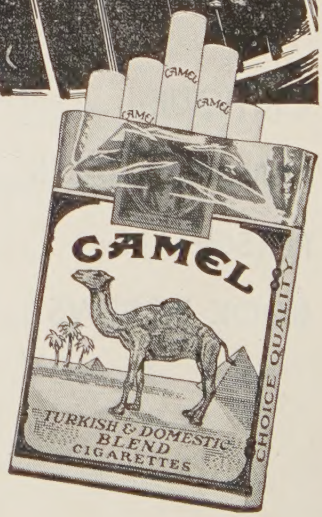

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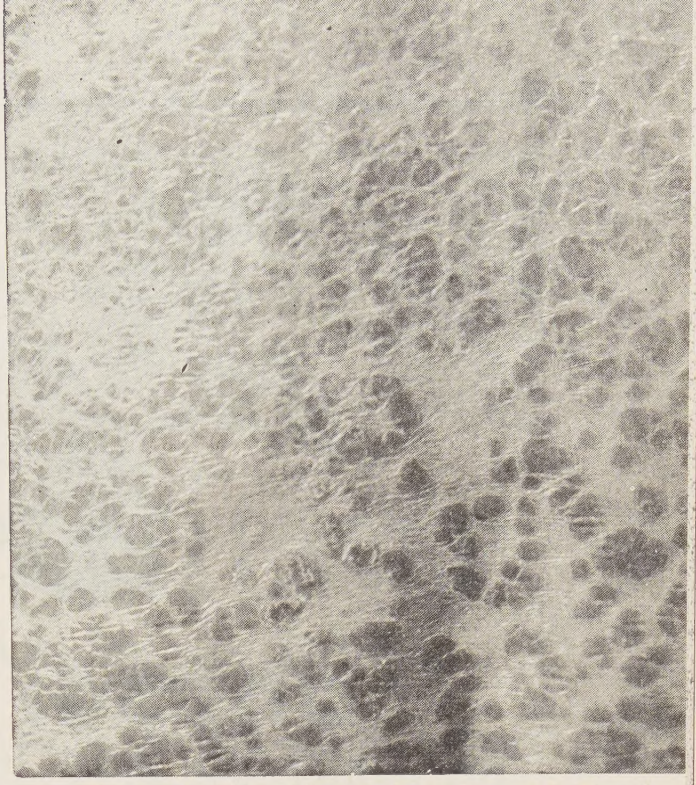

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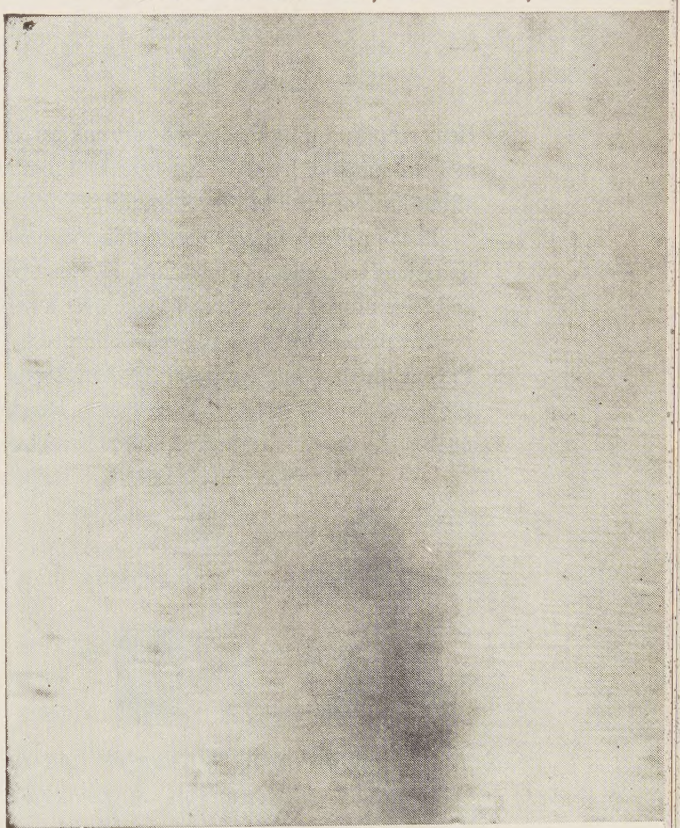

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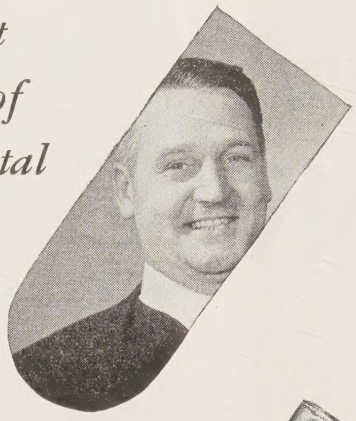

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Detailed study of cells, never before possible, has opened new paths in cancer research.

Break-down of the body's fundamental unit was brought about by the use of recently developed instruments such as the electron microscope and the ultra-centrifuge, a high speed whirling device. The new information "may well point the way to an understanding of the difference between cells that have gotten out of hand and those which are behaving themselves," according to Dr. Samuel C. Harvey.

Dr. Harvey pointed out that diseased cells are obtained from growths that have been surgically removed from patients and examined directly. They may also be grown in test tubes or under certain circumstances in experimental small animals.

He also declared, "Increasing interest and concern in cancer, coupled with a wider understanding of it will lead, in time, to better control than we have today. Very probably it will also lead to methods now unknown of prevention and treatment which will make the problem of cancer a far less serious one than it is at the present time and quite probably, in certain types at least, do away with it altogether."

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Critique

Vagrants Years ago Belgium maintained at Merxplas an establishment for vagrants. In 1928, about 600 were employed there in the workshops and 100 on farms. These were divided into old men who could not work elsewhere, immoral or sexually inverted individuals, the feeble-minded, and many young normals aged 16 to 21. They were detained on the 2,800-acre establishment for from three to seven years. Many trades were continued. Escaped inmates were not rearrested if they got a job and supported themselves; if not, back they went. Switzerland was doing the same sort of thing at Witzwil, in a 2,700-acre place owned by the Canton of Berne, where varied employment was offered and the colony turned 150,000 francs into the canton's treasury in 1927! In 1928 it had 430 inmates, 60 employees, and no armed guards. These ideas may be too sensible for us to adopt, of course.

Echo from Berlin We recently reread the Berlin correspondence in the *J. A. M. A.* for February 15, 1930. It was entitled "Value of Raw Foods in the Scheme of Nutrition." You might want to give it a look yourself.

"The final conclusion is that medical approval of an exclusive raw food diet for the general purposes of nutrition is impossible, although emphasis may be laid on the oft-repeated demands of physicians that the general diet of the people should comprise more fruit, vegetables, and salads, and less meat and meat products. Raw foods are to be recommended, then, only as forming a certain part of a mixed diet. Likewise the question of expense and transportation stand in the way of the adoption of an exclusive raw food diet as the general diet of the people."

Plugged Vitallium Tubes Neibling and Walters report several instances in which these tubes were used as a support to facilitate end-to-end anastomosis of the common bile duct and later they became plugged and had to be removed. Such patients had distress in the upper abdomen, chills, fever, jaundice, nausea, vomiting, dark urine, acholic stools, etc. The authors recommend the use of a rubber T-tube which can be kept clean by semi-monthly irrigations with an ether-oil mixture or the use of a polythene tube of the Mayo-Sullivan type, obtainable at the Mayo Clinic. The suggestion to avoid vitallium tubes, which can readily be obstructed with biliary sediments, seems a good one.

Chronic Ulcerative Colitis and Malignancy Cattell and Boehme of the Lahey Clinic remind us that malignant degeneration may complicate old, uncured cases of ulcerative colitis. They feel such changes may occur even where an ileostomy has been performed and that one should especially suspect this if the stools become bloody and if apparent strictures of the bowel cause alteration in bowel habits.

They feel that periodic sigmoidoscopic and roentgenographic examination are indicated because when malignancy once develops it is apt to be especially severe, metastasizing early and hence presenting a very unfavorable prognosis. Even in children with chronic ulcerative colitis the condition is not immune from malignant degeneration. In fact, the authors state that the incidence of cancer in such children is high. This is a fact that I am not sure is realized by the average general surgeon.

Compulsory health insurance It has often been said that compulsory health insurance is a creation of communists or fascists and is destined to lead nations to disaster. But the Netherlands can scarcely be called communistic or fascistic, yet it has had health insurance since 1913. The act was amended June 24, 1929, to go into force anew March 1, 1930. It provided compulsory insurance against sickness for practically all workers whose yearly wages were less than the equivalent of about $1,200 a year in our money, as of that date.

Autonomic Block Due to Drugs Coller *et al*, report favorable results using tetra-ethylammonium in causalgia and as an adjunct in the treatment of peripheral vascular disease. It greatly benefitted half of the causalgic cases and was of distinct aid in a case of Buerger's disease. These injections can also be used to predict which cases will respond favorably to surgical sympathectomy, and they have been used with benefit in patients with thrombophlebitis. By relieving vasospasm and producing a temporary chemical sympathectomy (both the sympathetic and the parasympathetic fibres are affected) pain and disability are relieved.

Differential Diagnosis of Jaundice N. F. Maclagan says that in 70 percent of cases a study of the combined results of one flocculation test (preferably the thymol flocculation one) and the phosphatase test will help to detect which jaundiced cases are caused by obstructive lesions from those that are not. In these latter instances the phosphatase level is usually below 15 King-Armstrong units and the flocculation reactions are apt to be strongly positive. This is an important point for surgeons to remember.

One Stage Pancreaticoduodenectomy Formerly, in this operation, the pylorus, the duodenum, and the head of the pancreas were removed and the duct of the latter was simply ligated. However, according to Alexander Brunschwig, this was always followed by a pancreatic fistula which often failed to heal for many months. Brunschwig recommends, therefore, that the transected neck of the pancreas be implanted into the jejunum, to avoid this distressing complication and to restore approximately normal conditions to the upper gastrointestinal tract.

Worth rereading The address on the Progress of Physiology, delivered by August Krogh, before the Thirteenth International Physiological Congress, which is to be found in the October 1929, *American Journal of Physiology*.

Great scientists Nominating those he regarded as the world's greatest scientists, E. E. Free, in *North American Review* for January 1930, named Werner Heisenberg, Gilbert N. Lewis, Albert W. Hull, Harvey C. Rentschler, Moses Gomberg, Claude Dornier, Peyton Rous, Otto Warburg, F. F. Lucas, Max Mason, John Fagan, Henry Heml Clayton, C. E. Ferree, Wolfgang Kohler, and Frank Baldwin Jewett. How does this list stand up today in your estimation?

European sickness insurance systems Any of you who are interested in the pre-World War II sickness insurance systems of Germany, Austria, Russia, Yugoslavia and other European countries, will find an informative article on this subject in the July 1929 *Monthly Labor Review*. It is by C. E. A. Winslow, then professor of public health at Yale.

NEWS ITEMS

Changes In Requirements Of American Board Of Obstetrics And Gynecology

A number of changes in Board requirements and regulations were made at the annual meeting of the Board held in Washington. These relate both to candidates and to hospitals conducting residency services for training.

Foremost are the following:

(1) Applicants must receive adequate training in both obstetrics and gynecology—meaning a minimum of six months, full time, in the branch of either obstetrics or gynecology relegated to a minor role in a candidate's training and preference for practice;

(2) Acceptable preceptorship training is defined;

(3) At least six months of practice in the specialty following the completion of an acceptable training period has now been extended, effective December 31, 1949, to a requirement of two years post-training practice limited to the speciality;

(4) There will be no further temporary approvals of hospital services for residency training. All hospitals holding any type of residency training approval will soon either be resurveyed or initially surveyed by the Council on Medical Education and Hospitals of the A.M.A., so that all future approvals, new or old, will be based entirely upon inspection following application.

The next scheduled examination (Part I), written examination and review of case histories, for all candidates will be held in various cities of the U. S. and Canada on Friday, February 4, 1949.

Training Program For Cancer Control Officers

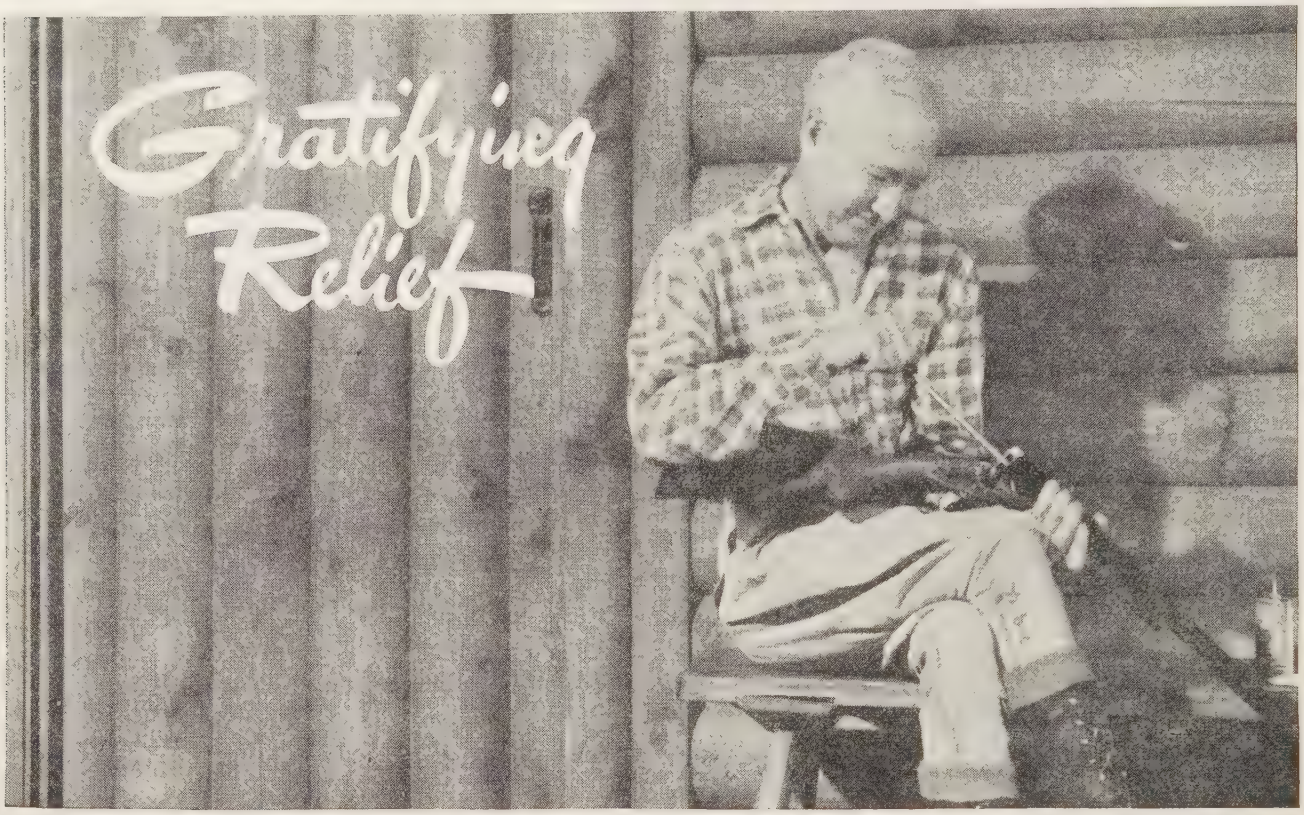
Two Yale School of Medicine departments worked together to establish a long-range training program for cancer control officers in the nation. The course was organized to provide a one-year course for medical and other personnel who will specialize in the administration of programs caring for those afflicted by cancer. Dr. Edward M. Cohart, formerly Regional Cancer Consultant of the U. S. Public Health Service, as associate professor of Public Health, was appointed to head the new section on cancer control.

Physicians who complete the full course are eligible for the degree of Master of Public Health or that of Doctor of Public Health in special cases. The Yale instruction will normally be one year in length. It includes basic courses in the principles of social science and organization of public health and medical care. In addition, there will be specialized instruction in cancer control by means of lectures, conferences and seminars.

New Yale Program For Physicians

First formal courses in Yale University's program of postgraduate education for practicing Connecticut physicians began the end of September, along with the second Connecticut Postgraduate Seminar of Neuropsychiatry.

Courses will be given in gastroenterology; principles of physiology and pharmacology applicable to anesthesia; endocrinology, surgical diagnosis and orthodedics pathology; demonstrations in anatomy; early diagnosis of cancer, and many others.



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MEDICAL RECORD

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VOL. 161 NOVEMBER, 1948 WHOLE NO. 2789

AN EVALUATION OF THE SPRAY AND THE DROP METHODS FOR INTRANASAL MEDICATION

ABRAM H. PERSKY, M. D.
Philadelphia, Pa.

This study reports clinical and experimental observations on the differences in effect of "spray" and "drop" methods of administering intranasal medication. As an introduction, it may be well to review some of the anatomy, physiology and pathology of the nasal mucous membrane.

The nasal mucosa is characterized by a layer of epithelial cells, columnar in appearance and capped by cilia. (Fig. 1.) Although the cells are usually in a single layer, they may appear in several layers and hence are called stratified epithelium. These cells rest on a well defined basement membrane. Between the columnar cells are the so-called goblet cells which are filled with mucin. The goblet cells increase in number and size when irritated or stimulated by external agents or toxins and produce an increased out-pouring of secretion. This mucinous secretion offers a protective layer to the mucous membrane.

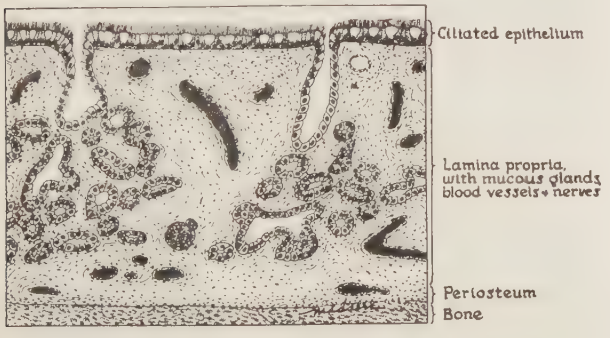

Fig. I. Normal Nasal Mucous Membrane.

The cilia of the respiratory epithelium are thin hairlike processes of protoplasm palisaded upon the surface of the respiratory columnar cells and are usually situated upon the bases or the broader surface of the superficial cells (1). They are usually in constant motion and the direction is always toward the posterior choana. The speed and frequency of ciliary motion varies with temperature, humidity and proper chemical surroundings. The mucous blanket is very important and has four attributes—thin, slippery, adhesive and tenacious. This is moved by ciliary action backward and downward to the nasopharynx. It thus offers an excellent resistance to bacterial invasion.

Underlying the basement membrane is the tunica propria, or the stroma. This is made up of a loose fibroelastic and connective tissue. It may be described as having three layers:

1. An upper, consisting of loose connective tissue strands, numerous capillaries and cells (both polymorphonuclear leukocytes, lymphocytes, basophiles and eosinophiles). This is known as the capillary layer.

2. Extending somewhat below this layer is the glandular layer. The glands are racemose and secrete either mucous or serous material. The ducts extend through the upper capillary layer and open on the surface of the nasal mucous membrane.

3. The deepest layer of the tunica propria is the vascular layer. It contains the larger arteries and veins, the nerves and the lymphatics. The entire stroma rests upon the periosteum covering the bony structure of the nose or accessory sinuses.

The most important functions of the respiratory portion of the nasal mucosa are humidification and cleansing of the nasal chambers. Factors altering or interfering with these normal functions would lead to changes in the cilia, ciliary action and eventually to pathologic states. Anatomic alterations in the nasal chambers may influence the proper warming and moistening of the air currents, which in turn will influence the normal physiologic action of the mucous membrane. This normal physiologic action is also influenced by many extraneous factors, such as acute upper respiratory infection, allergic conditions, endocrine imbalance, exposure to various fumes and chemicals, etc.

The goal of the rhinologist is to encourage a normal functioning of the nasal mucosa Where this function has been altered by acute or chronic infections, allergy or other conditions, associated symp-

toms, such as headache, eye pathology, nasal obstruction, etc. are frequent. These secondary symptoms can often be relieved by the proper aeration and drainage of the nose and accessory sinuses, through the use of various drugs. This study was undertaken to evaluate the proper method of administering these drugs.

Experimental Observations

Experimental studies were undertaken on rabbits, since their nasal mucosa closely resembles the human mucosa.

Sections of mucous membrane were removed from the septum and the inferior turbinates of Rabbit #1. Some of these sections were studied in the fresh state and the remainder were prepared for staining, sectioning, and microscopic study of the normal, untreated mucosa. The rate of ciliary action was carefully studied.

Three other rabbits were treated with drugs: rabbit #2 with Ephedrine Sulphate 1 percent in normale saline, rabbit #3 with 'Par-Pen'* and rabbit #4 with Neosynephrine Sulphate ¼ percent solution. Each drug was administered in the following manner: five drops of the test solution were instilled into the right nostril three times a day; then the same solution was sprayed into the left nostril with a DeVilbiss atomizer. After two weeks the rabbits were sacrificed by air embolism. The mucous membrane was removed from each nasal chamber and both fresh and stained sections were studied.

Gross examinations showed no apparent differences. On microscopic examination it was found that ciliary action continues for a long time after

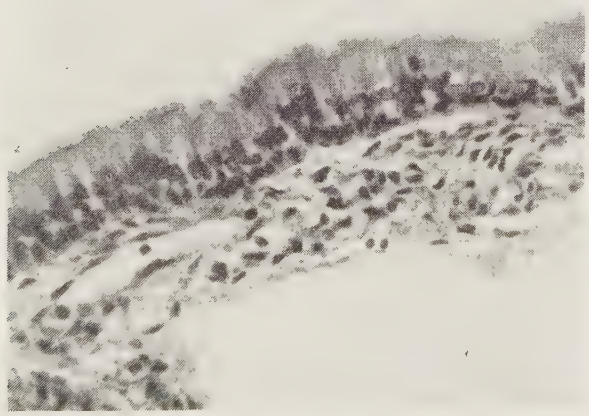

Fig. II. Normal mucous membrane of the rabbit shows the cilia on columnar epithelear and normal stroma 450X.

sections are removed from the nose. It can be maintained in warm saline solution for lengthy observation. Detailed examination of each rabbit gave the following results: (Fig. 11).

Rabbit #2 (Ephedrine Sulphate):

Stained sections showed a slight increase in congestion and edema of the tunica propria. There was an appreciable slowing of ciliary activity which ceased entirely in thirty to sixty minutes. The cilia were somewhat matted together. No differences between the right and the left nostril were observed. (Fig. 111).

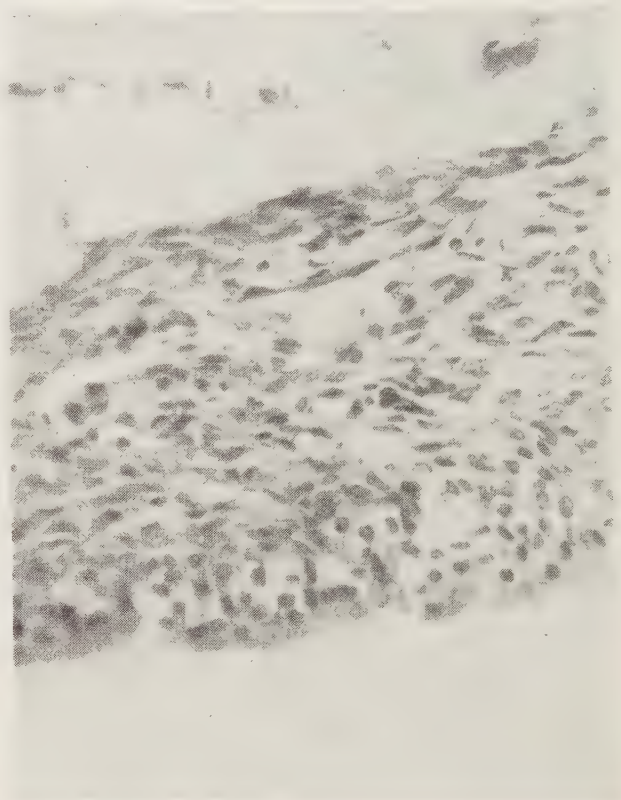

Fig. III. Mucous membrane of rabbit treated with ephedrine sulphate solution. Cilia appears somewhat matted together with a slight increase in the edema of the tunica propria 450X.

Rabbit #3 ('Par-Pen'):

Stained section showed that effects were similar in degree and extent to those in Rabbit #2. There was also a slight increase in the polymorphonuclear cells. The effect on ciliary activity and condition was also similar to those in Rabbit #2. No differences between the right and left nostril were observed. (Fig. IV).

Rabbit #4 (Neo-synephrine):

Mucosa showed a slight increase in cellularity and there was some matting of the cilia. In this case the ciliary activity decreased rapidly and ceased within twenty minutes. No differences between the right and left nostril were observed.

These animal experiments showed no significant differences of effect by the spray or drop method of drug application. The prime reason for the inability to demonstrate the difference in effect is that the small size of the nasal orifices and the narrow passages of the rabbits are physical handicaps to both proper distribution of the solution and proper evaluation of the extent of the effectiveness or spread by the respective method used. None of the drugs used produced any marked changes on the nasal mucosa, indicating that they should not be deleterious even

* These experimental studies were conducted at the Mt. Sinai Hospital (Philadelphia) pathologic laboratory. Appreciation is extended to Dr. David Meranze and Dr. Joseph Braitman for their kind cooperation.

** A combination of the vasoconstrictor 'Paredrine' (p-Hydroxy-alpha-methylphene-thylamine hydrobromide, S.K.F.) and penicillin obtainable from Smith, Kline and French Laboratories, Philadelphia, Pa.

A vasoconstrictor (phenylephryne HC1) obtainable from Winthrop Stearns and Company, New York.

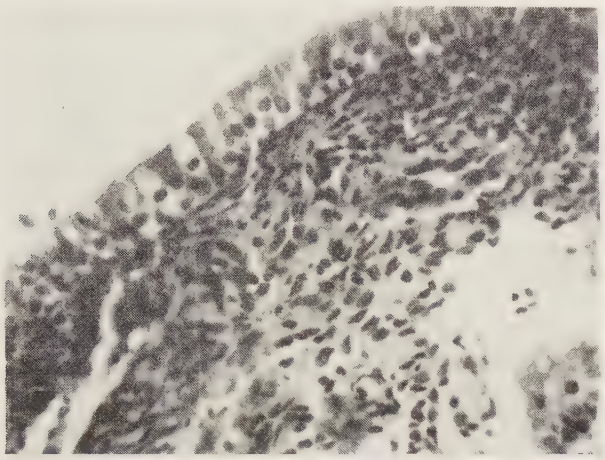

Fig. IV. Mucous membrane treated with the par-pen solution showing a slight increase in the polymorphonuclear cells 450X.

on prolonged use. In all cases the ciliary activity was restored when the secretions were flushed with warm saline solution.

Clinical Observations

Both objective and subjective observations were made in the clinical studies.

X-Ray Studies: Roentgen studies showed marked differences between the drop and spray methods of administration. A contrast medium** was used in place of medication.

Drop Method: A medicine dropper-full of the contrast medium was instilled in each nostril with the head in a dependent position. Immediately thereafter films were made of the nose, with the head in the upright position. In figure V it can be seen that the contrast medium lies along the floor of the nose,

Fig. V. X-ray photograph showing contrast medium administered by the drop method and its distribution along the floor of the nose and extending backward and downward into the nasopharynx.

flowing back into the pharynx.

Spray Method: A medicine dropper-full of contrast medium was sprayed into each nostril with a DeVilbiss atomizer #251. Films were taken immediately. In Figure VI it can be seen that the spray is distributed throughout the anterior of the nasal chamber; very little of the substance flowed back into the nasopharynx or pharynx.

A subjective expression of preference for the spray, nebulizer and drop method was obtained from 125 patients who were under treatment for simple acute upper respiratory infections, acute exacerbations or chronic hyperplastic sinus conditions, allergy, polypi complicating allergy or a hyperplastic sinusitis and chronic suppurative pansinusitis. Of these patients, fifty were instructed to use drops, fifty were given atomizers of different types, and twenty-five were treated in the office with a De-Vilbiss Nebulizer #640 with nasal tip. Each patient was carefully instructed in details of the method he was to use.

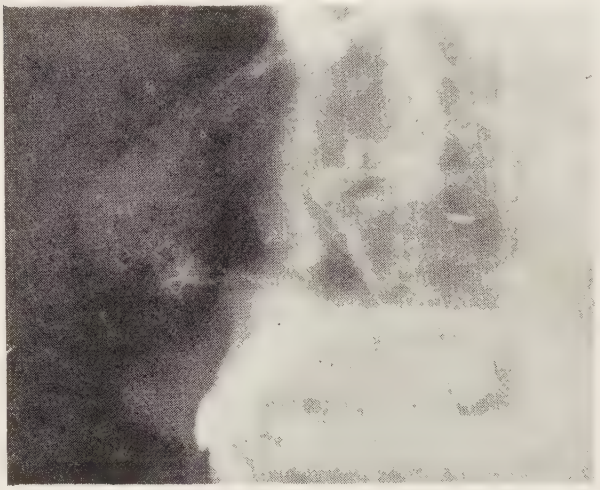

Fig. VI. X-ray photograph showing distribution of the contrast medium by the spray method spreading over the anterior of the nose and also backward over the turbinates.

Drop Method: The patient was advised to lie on his back with his head somewhat dependent, as shown in the illustration. A medicine dropper-full of about 5 drops was instilled into each nostril. The head was maintained in this position for 2 to 3 minutes and then turned slowly from side to side. The patient was then permitted to arise. Treatments were repeated at 3-4 hour intervals. Fig. VII.

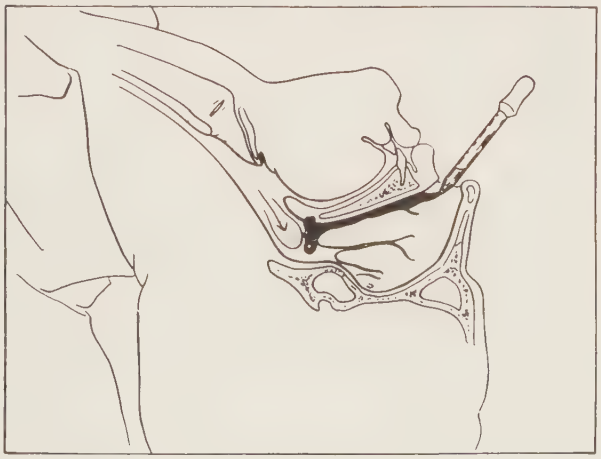

Fig. VII. Distribution of solutions administered by the "Drop Method."

** The media used was A. A special 80 percent Lipoiodine prepared by Ciba Pharmaceutical Products, Inc. and B. An emulsion of Ethyl Iodophenylundecylate supplied by E. R. Squibbs and Sons.

Spray Method: The tip of an atomizer was directed toward the dorsum of the nose and the bulb compressed two or three times. The atomizer was then directed along the floor of the nose for two or three sprays. DeVilbiss atomizer #182, #251 and #114 were used. These atomizers differ chiefly in type of spray and capacity of the bottle. #251 has

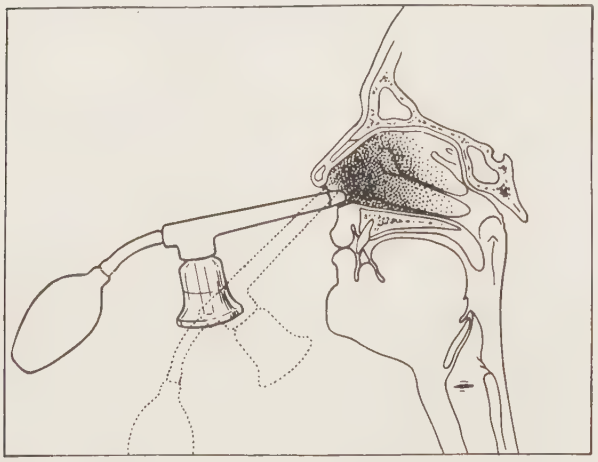

Fig. VIII. Distribution of solutions administered by the "Spray Method."

a very fine spray, while the droplet from the others is somewhat coarser. #114, which contains only one-third ounce of solution, is the smallest and therefore most convenient if the patient has to carry it to and from work. Fig. VIII

Nebulization: This is purely an office procedure. A DeVilbiss #640 nebulizer was attached to the air pressure. A double nasal tip was attached to the upper end for insertion into the nostrils. 1 cc. of 'Par-Pen' solution was placed in the nebulizer and with the air gauge set at 4 to 5 lbs. pressure the patient was instructed to breathe normally. The treatment lasted 15 to 20 minutes. In severe cases it was repeated at 3 hour intervals but the usual interval was either daily or every other day. Fig. IX

Clinical Results

Group 1: Although some of the patients like the convenience of having to carry a dropper and a small bottle of solution, many found it difficult to follow directions for proper administration of the drops during business hours. Also, a fairly general complaint was that, when the medicine was instilled as directed (with the head kept dependent for two or three minutes) the drops rolled back and down the throat.

This frequently caused gagging, and occasionally nausea and vomiting. After a short trial with the drop method, one-half of these patients were changed to the atomizer; these 25 patients make up Group II.

Group II: Every patient in this group preferred the atomizer to the drop method which they had used before. In their opinion the medication penetrated the nose better, and they were not troubled with gagging or nausea.

Group III: This group used the atomizer from the onset of treatment. All liked this method. The only complaint was that a few patients found the atomizer a little inconvenient to carry back and forth to work, but this was not a serious factor.

Group IV: The results of office treatment with the nebulizer were invariably gratifying but, as stated before, this method does not lend itself to home treatment.

Discussion

The purpose of any intranasal treatment is to produce better aeration and drainage, freer emptying of the infected sinuses, and relief of associated symptoms, such as headache, nasal obstruction, and cough. Infection should be controlled quickly, to allow the cilia not only to sweep out the infected material from the nose, but also to regenerate themselves wherever they have been altered or destroyed.

To accomplish these purposes a nasal medication must fulfill certain requirements: (1) nasal constriction to permit better aeration and drainage; this effect should be prolonged and the secondary period of reaction should be very mild; (2) its effect on ciliary activity should be minimal; on this basis ephedrine sulphate 1 percent and 'Par-Pen' seem somewhat preferable to Neo-synephrine, since their inhibitory action was slower. As already noted, however, none of the three drugs tested had any permanent effect on ciliary action; (3) the medication should have a pH which conforms to that of the nasal mucosa (2).

Although the pH of the nasal secretion varies, and is especially influenced by diseased conditions it has been shown by many observers that a slightly acid

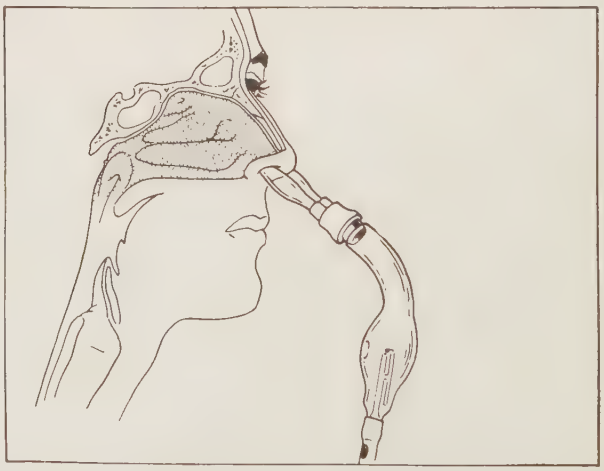

Fig. IX. Distribution of solutions administered by the "Nebulizer Method."

solution of pH 5.5 to 6.5 is most suitable; (4) the preparation should have either bacteriostatic or bactericidal action to control the infection and allow the cilia to rid the nasal chambers of infected material. Previous experience with 'Par-Pen' (3) indicates that duration of infection is significantly reduced when this penicillin-vasoconstrictor combination is used; (5) from the patients' standpoint the medicine should have a pleasant taste, an odor, and remain stable for a reasonable length of time.

Whatever medicine is selected, the treatment may be made more or less effective by the method of

administration. The best method is that which: (1) gives best distribution of the substance throughout the nasal passage, (2) gives most prompt and lasting relief, and (3) is most agreeable to the patient. The x-ray studies reposted indicate that the spray administration gives much better distribution of medicine than does the drop method. This is confirmed by the patients' subjective impression that the spray method not only produced no gagging or nausea, but also gave them a longer period of relief.

This latter observation was also noted in a previous study "relief of symptoms by the 'drop' method lasted from 1 to 1½ hrs. whereas by the 'spray' method it lasted 1½ to 3 hrs." This was due to the wider distribution of the solution (3). It is probable that, of all methods, nebulization is the best, but for home use the atomizer seems the method of choice.

Conclusions

1. No apparent differences as to the relative merits of spray and drop methods of administering intranasal medication were evident, either grossly or microscopically, in experimental animals. The reason as noted above is due to the small size of the rabbit's nostrils.

2. Roentgen studies reveal that the atomizer gives better distribution over the nasal mucosa than does the dropper, and that with the atomizer there is little chance of producing unpleasant effects such as gagging, or nausea, because the medicine does not roll down the throat.

3. The spray method gives a wider distribution of the solution and permits a longer duration of its effect (3).

4. The method which probably gives most immediate and lasting relief is nebulization, but this is suitable only for office use. For self administration the spray method is favored over the dropper by all patients.

5. The preferred atomizers are DeVilbiss #251 for its fine spray and #114 for its size. Both of these atomizers are suitable for any type of solution since they are non-metallic.

Bibliography

1. Eggston, A. A. and Wolff, D.: Histopathology of the ear, nose and throat. Williams & Wilkins Co., Baltimore, 1947.
2. Fabricant quoted in Eggston, A. A. and Wolff, D.: Histopathology of the ear, nose and throat. Williams and Wilkins Co., Baltimore, 1947.
3. Persky, A. H.: Penicillin-vasoconstrictor treatment of post-influenzal rhinitis and sequellae, MEDICAL RECORD—November, 1947.

1737 Chestnut Street

CHEVALIER JACKSON AND THE BLOCKED PASSAGES

By EDWARD PODOLSKY, M. D.
Brooklyn, N. Y.

Today there are over 4,000 foreign bodies removed from the lungs and other human passages in Dr. Chevalier Jackson's Bronchoscopic Clinic in Philadelphia. Most of them were removed by Dr. Jackson, the surgeon who learned how to fish for foreign objects in the breathing passages and who saved many lives by this method, and who taught other doctors his methods.

In the days before Dr. Jackson and his magic bronchoscope many people came to an untimely end because they swallowed or breathed in an object which became lodged in a vital part of the breathing passages. Dr. Samuel Gross, an American surgeon of great skill during the last century, wrote: "How many persons have perished, perhaps in an instant, and in the midst of a hearty laugh, the recital of an amusing anecdote, or the utterance of a funny joke, from the interception at the glottis of a piece of meat, a crumb of bread, a morsel of cheese, or a bit of potato without a suspicion on the part of those around, of the real nature of the case! Many a coroner's inquest has been held upon the bodies of the victims of such accidents and a verdict rendered that they died by the visitation of God, when the actual cause of death lay quietly and unobserved at the door of the windpipe of the deceased."

At about the same time Dr. John M. Nooth recorded an interesting case of a foreign body in the lungs. The following is the report: "He was seized while on duty in Quebec with an asthmatic affection which came on almost every day for some months; it consisted of pain and a sense of weight in the left side of the chest, together with some difficulty in breathing. A few months after the first seizure there came on, in addition to other symptoms intermitting pulse and irregularity of the heart's action. He was persuaded to return to England, and two years from the commencement of the series of asthmatic attacks he arrived in London. Soon after his arrival he went to the theatre. The house was crowded and very hot; his cough became unusually severe, his respirations difficult, and the irregularity of the heart's action much greater than ever. Under these circumstances, he went home, and retired to bed very ill and in great distress. Lying with his face downward

he continued coughing and spitting phlegm and toward morning he discovered that he had spit up a large leaden shot, about an eighth of an inch in diameter. In ten or twelve days afterwards the expectoration and cough had quite ceased and the pulse had become regular."

Dr. Nooth could not be certain how this shot got into the air passages, but the patient remembered that he was one day seized immediately after drinking the last glass of a bottle of wine, with a convulsive cough, which continued to be troublesome for some days after and this was previous to his experiencing any uneasiness in the chest.

The first methods for removing foreign bodies from the air passages consisted of surgical intervention, actually cutting into the part and removing the object. However, this resulted in many deaths and simpler methods were being sought to accomplish the same results. A brave beginning was made by Coolidge, Ingals and Einhorn. However, it was Chevalier Jackson who brought to perfection the method of fishing objects from the lungs without the necessity of resorting to the knife.

Chevalier Jackson was born in Pittsburgh when the Civil War was coming to its conclusion. He had determined early to become a physician and in 1886 he was given his degree of Doctor of Medicine. He came to Philadelphia to settle down and practice, and it was in Philadelphia that Dr. Jackson made his greatest contributions to medicine and it was to this city that patients with tacks, safety pins and other foreign objects in their lungs have come to him from all parts of the world.

Dr. Jackson had early become interested in diseases of the throat and lungs. He wished to go to England to study under Sir Morell Makenzie who was then the greatest specialist on throat ailments. He had only $76 in his savings account and this was not enough to pay his passage. It was at this point that he came in contact with an eccentric old bachelor who had a chronic throat ailment. If Dr. Jackson would go to England and find out the latest methods for treating his throat the bachelor would advance him $50. In return Dr. Jackson was to treat his throat for the rest of his life.

Young Dr. Jackson accepted and booked passage at once. When he had arrived in England he found that he had to make his dollars go far. His meals consisted of bread and cheese and an occasional bowl of soup. He studied hard and searched out the leading authorities on diseases of the throat and learned a great deal. Back to America he came with a vastly improved knowledge of his speciality.

Dr. Jackson decided that diseases of the throat were to be his lifetime work. Among his first patients was Dr. W. T. English, a specialist in diseases of the chest, who was also a singer and who was suffering from a chronic laryngitis. Dr. Jackson was successful in clearing up the ailment and Dr. English referred many patients to him, most of them singers.

The first case that Dr. Jackson had of an obstruction in the throat was that of a young girl. One winter morning a woman came to his door, in great distress, screaming that her inebriated husband was beating their child to death. Dr. Jackson accompanied her to her home. There he found a girl lying on the floor, gasping for breath. There was an obstruction in her throat and she would be dead in a few minutes if the obstruction were not removed.

Immediately Dr. Jackson went into action. He made two incisions in the front of her throat. It was then that he was seized by the drunken father. Neighbors pulled him off and Dr. Jackson was able to complete his operation. The girl was able to breathe normally again.

What had happened was this. She had refused to give a ten cent piece to her father who wanted it to buy more liquor. To keep him from getting the dime she had put it into her mouth, whereupon he had choked her. The coin lodged in her throat and she would have choked to death but for Dr. Jackson's timely action.

This was the thing in medicine that began to interest him more than any other. He began to think of discovering means of fishing out foreign bodies from the air passages without resorting to surgery. He set up a little workshop in the cellar of his home and began to experiment fashioning instruments that could be inserted through the mouth into the lungs. He remembered that Dr. Makenzie in England had an instrument called an esophagus tube. It was rather crude and it was used to peer into the esophagus. Using this as a model he fashioned his first instrument which he called an esophagus scope.

Dr. Jackson used his new instrument for the first time in removing a tooth plate swallowed by an adult. The second case was that of a child who swallowed a coin which lodged in the esophagus. He used his instrument to remove it.

The story of the new instrument and how it could be used was presented to the medical profession but it met with poor results. Other doctors were not as skillful as he was in using the new devise and more harm than good was accomplished. This resulted in the instrument being condemned as dangerous.

Dr. Jackson realized that he would have to train other doctors how to use his new instrument. He organized classes, found eager students and began to teach others how to use the esophagus scope. The results now are infinitely better.

However, Dr. Jackson was not satisfied that the esophagus scope was the instrument that he was after. He wanted to be able to remove foreign bodies from the lung passages, and his instrument was not capable of doing this. He set about devising a tube that would be capable of reaching into the lungs.

Dr. Jackson began to study the literature and found that a crude beginning in this direction had

been made by a German surgeon, named Killian, who had constructed a tube for insertion into the lungs. In order to see into the dark recesses of the breathing passages Dr. Killian used a strong light reflected into the tube with a mirror. However, this instrument was more deadly than safe, for one fourth of Dr. Killian's patients died.

With all these facts before him Dr. Jackson set about to devise a more delicate lung tube. Instead of using reflected light Dr. Jackson put a light directed into the tube. Dr. Jackson's new instrument which he called a bronchoscope consisted of three tubes, an outer one containing the light, a second tube down which could pass a third one. This third tube was really the working part of the instrument, something like a pair of scissors with a long thin handle.

Before putting his new instrument to use on human beings he practiced long and diligently on cadavers, improving and refining it. He then practiced on anesthetized dogs and learned many new facts about how this instrument works on living beings. After thousands of such experiments Dr. Jackson devised a procedure safe enough to use on human beings.

It was not long before he had an opportunity to use his bronchoscope on a human being. A fourteen year old had inhaled a scarf pin which lodged in his right lung. He was taken from one surgeon to another who could do nothing for him. The boy's mother was told to take him to Dr. Jackson.

When the boy arrived, Dr. Jackson studied the case for a long time, and then in a matter of a few minutes by using his bronchoscope succeeded in removing the foreign object. This case attracted world-wide attention and the fame of Dr. Jackson was firmly established. From then on Dr. Jackson became the world's foremost remover of foreign objects from the lungs.

There are many interesting cases in the notebooks of Dr. Jackson. Here let us retell only a few. There was Cletus Moore. He was only eight months old, but he was full of boundless curiosity. During one of his quests for adventure he swallowed a carpet tack. When he realized that it was not some new form of delicacy heretofore denied him, but instead was so sharp that it hurt even worse than his new teeth, he attempted to cough it up. The tack, however, became embedded deep in his left lung. St. Louis surgeons were called in, and Cletus was taken to the City Hospital.

The surgeons looked at the baby and looked at the X-rays, and they shook their heads. There was one chance in a hundred to save the baby's life, they said, and that was to rush him immediately to Dr. Chevalier Jackson.

But Dr. Jackson was in Philadelphia, a thousand miles away. The story of little Cletus Moore's plight was told in the newspapers and the Catholic Women's League raised the necessary funds to take the baby to Philadelphia. Mrs. Leilia Parrosh, assistant superintendent of the City Hospital was chosen to carry the youngster on the trip. It was a real race against death.

With Cletus in her arms, Mrs. Parrish boarded the fastest train for the East. The papers recorded the progress of the journey and the engineer made good time. Twenty-seven hours after he left St. Louis, Cletus was lying on a cot in Jefferson Hospital, smiling up into the face of Dr. Jackson.

Four and a half minutes later, the tack had been removed and Cletus rolled over and went to sleep. The tack was three quarters of an inch long and had been lodged well down toward the base of the lung. The operation was performed without a knife and without the use of an anesthetic.

Five days after Cletus Moore had arrived in Philadelphia he was back home again, safe and sound, and his place in the Jefferson Hospital clinic was taken by another youngster. There was, for instance, the year-old daughter of the Gillespies of Arcadia, South Carolina. She swallowed an open safety pin. The child was rushed to Philadelphia when an operation by a local physician was unsuccessful. The pin was lodged in the throat, point up. A few deft moves on the part of Dr. Jackson, and it was added to his famous collection.

Two days before the Gillespie baby, came Valerie Marian, the sixteen month old baby of H. L. Marian, of Winston-Salem, North Carolina. Valerie gave up a piece of sharp peanut brittle which had stuck in her gullet. Viola Zinn, of Geneva, New York, carried a carpet tack in her lung for five years before it was discovered. Physicians treating the child noted peculiar symptoms, and their subsequent investigations revealed the presence of the tack. Viola visited Dr. Jackson and the tack was extracted.

By no means is Dr. Jackson's work confined only to children. Adults also have the habit of getting objects into their gullets or lungs. There was the case of a young woman who for three years carried a tooth in her lungs. The tooth found its way into the lung while she was having dental work done. She was under an anesthetic at the time and the cause of the trouble was not discovered until an X-ray examination disclosed the tooth.

Dr. Jackson was confronted with many new problems in his work in removing foreign objects from the lungs. He anticipated almost every thing and prepared for any eventuality. One day one of his students asked if he had ever removed a fishhook from a patient's lung. Dr. Jackson replied that he had not.

"Do you think you could remove one if you had such a case?" the student asked.

"Certainly."

"But, Dr. Jackson," the student continued, "if you have never done it, how can you be so sure?"

"You are right to ask that," replied Dr. Jack-

son. "I can be sure because I have spent 283 hours in the dissecting room practicing it."

This has been characteristic of Dr. Jackson throughout his life. All his work has been painstaking, carefully planned and carried out to perfection.

Dr. Jackson is now an old man and does not work as hard as he did in his younger days. His son is carrying on as well as his pupils whom he has trained in his methods. He sums up his life's work in the following little verse:

Like a hickory cog
In the old mill wheel,
He did his part
As his turn came 'round.

183 Avenue O

That Problem Of World Hunger

Can the world's hunger be appeased? It never has been in the past. It certainly is not now. Then are the neo-Malthusians right who insist that it requires so many acres to support each human being, that there just aren't enough arable acres on the globe to provide all mankind with enough food, and we can resign ourselves to letting some of them—the further away and the darker in color, the better—starve?

Numerous reliable surveys have demonstrated that the world as a whole has never produced sufficient food to provide enough for all of its inhabitants. Many large populations perpetually teetered on the thin edge of starvation, breaking over into famine at periodic intervals. Even the wealthiest of nations had its quota of poorly fed people who lacked enough ration tokens in the form of money to purchase adequate diets for themselves.

Recurring famines and chronic malnutrition along with periodic gluts and food surpluses have been characteristic of the world's history. Wars have naturally aggravated these problems by decreasing agricultural production, increasing transportation difficulties, and rendering farm supplies and equipment scarce.

Although about two-thirds of the world's people have been engaged in the effort to produce food, less than a third of its population, during peacetime, had sufficient food available to provide an average of more than 2,750 calories per person per day. About half the world's population was normally and seriously undernourished on less than 2,250 calories, and one-sixth of its people subsisted at a bare marginal level. Moreover calories alone are insufficient. Proteins and other protective foods are also essential.

Poverty has universally been the chief cause of malnutrition. In all countries where the daily calorie supply per person was less than 2,250, the average per capita income was less than a hundred dollars a year. Incomes averaged higher, and so did calories, in North America, Oceania, Russia, much of Europe, and three South American countries. The following were intermediate in both respects: Southern Europe, three Asiatic countries, part of the Middle East, and parts of Africa and South America. In the low class were most of Asia, part of the Middle East, all of Central America, and much of Africa and South America.

A relatively low nutritional target the world over is 2,600 calories per person per day, but it would take greatly increased supplies of cereals, fats, peas and beans, fruits and vegetables, milk, meat, fish, and eggs to bring the low-calorie countries up to that. Moreover, if world population increases by one-fourth by 1960, world production of the following should be increased by the percentages shown after them: Cereals for human consumption 21, roots and tubers 27, sugar 12, fats 34, peas and beans 80, fruits and vegetables 163, meat 46, and milk 100 percent. Can that be done?

At present, however, a major food crisis, caused by the greatest war of history still haunts the world. Famine conditions have prevailed over large parts of China and India for months. Many Europeans are on diets of 1,500 calories per day per person—or less. Their situation will grow worse before the next harvest. Yet people in food-exporting countries are eating better than they did before the war, while consumption of food in this Nation during 1946-47 will surpass even the record level of 1945-46. Does that mean that we alone can prevent world starvation?

Health is declining rapidly now in many countries which have been far too long on subnormal diets. Yet total food exports will probably be lower during the current year because of transportation difficulties, depletion of food stocks, price increases after decontrol, and the termination of UNRRA. There is increasing incidence of anemia, tuberculosis, vitamin deficiency diseases, and hunger edema in food-deficit countries, while infant mortality rates rise rapidly.

Low as their estimated prewar diet was in calories, India, China, and Malaya have to get along with but about 80 percent of that. Manchuria, Rumania, Italy, Austria, and Germany are in desperate straits. Many European countries are today down lower in calories than even the underfed Orientals used to be. It is something novel for starvation no longer to be confined to colored or subject peoples at a seemly distance from the master race.

True, world supplies of most important food products are larger than they were a year ago, but the quantities available for export are sharply below prewar levels. A considerable number of countries lack food to tide them over until the next harvest. The European food outlook, at least for the first

part of 1947, is as serious as it was a year ago. Record cold has made conditions still worse.

The calories per person per day average about 2,000 for the nonfarm population of Finland, Poland, Hungary, Spain, and Portugal. Such consumption levels are insufficient to maintain a population over long periods, much less to rehabilitate lost body weight and work capacity. The average elsewhere, and again for the nonfarm population, is from 2,100 to 2,500 calories daily. Greece, Yugoslavia, Bulgaria, France, Belgium, the Netherlands and Switzerland hover around this level. Only Czechoslovakia and Scandinavia average 2,600.

Rations in Britain are lower than they were a year ago. There have been further food cuts among Russian unemployed dependents. The new and better rice crop affords some relief in the Near East, but large parts of India are in acute need of wheat, and the peoples of south Korea and Japan subsist on diets far below their inadequate ones of prewar times. Continued heavy exports of grain are urgent.

So far the United States has been the outstanding famine fighter. Its total contributions to UNRRA were three billion dollars. Our Government, through the Department of Agriculture, acted as purchasing agent for many western countries not supplied by UNRRA but which had funds in international exchange to buy for themselves. But UNRRA wound up in Europe January 1. No other agency stands ready to take over its functions.

The Food and Agriculture Organization of the United Nations is a fact-finding and disseminating, not an operating agency. The International Emergency Food Council, successor to the wartime Combined Food Board, cautioned all countries to conserve food as far back as last November. It emphasized that world supplies of all basic foods, particularly cereals, were far short of meeting world needs. Fats, oils, sugar are all in shortage. World food production may rise 7 per cent this year over last but that is insufficient.

Only the most careful utilization of food export supplies will prevent acute shortages. The demand for food from exporting countries will be as great as last year, for food deficit countries will need just as much help. The greatest increases in crop production have occurred in southern and western Europe and in North Africa. But Europe, exclusive of Russia, will probably produce only about 90 per cent as much food in the coming harvests as before the war.

In comparison with prewar years, the United States and Canada have made the greatest contribution to world food production by not only maintaining a high level of output during the war, but by increasing it. Improved agricultural technology and special incentives enabled the United States to produce sufficient additional food to feed fifty million more persons; not too drastic changes in its diet and farm production pattern would enable it readily to feed adequately twice as many people as number its present population.

That does not mean, however, that this country can single-handed solve the world's hunger problem. But, whereas most international food shipments were noncommercial last year, with Lend-Lease and UNRRA out of the picture, they are likely to be on a cash or credit basis this year. Moreover, even if the world's 1947 harvest restored the prewar food situation, that also is insufficient as we saw above. It is far from the goal of an adequate diet for all.

Before the war only New Zealand, Sweden, the Netherlands, Denmark, Canada, Germany, and the United States had fairly good diets. France, Czechoslovakia, Italy, Poland, and Rumania had a fair portion of calories, but derived too many of them from cereals, beans, peas, and starchy fruits and vegetables. Chile, Puerto Rico, the Philippines, India, China and Japan had too little of all essential food elements.

Moreover mortality rates decline and life expectancy increases generally wherever the quantities of energy derived from milk, nonstarchy vegetables, and fruit increase from less than 100 to more than 600 calories per person per day. In countries where fewer than 300 calories of the diet are derived from milk, nonstarchy vegetables, and fruits, high infant and tubercular death rates prevail and life expectancy decreases. Out of 70 countries included in a single study, 22 had diets of this last sort during the 1930's.

There is world need for doubled consumption of milk, nonstarchy vegetables and fruits, and consumption of most other foods should rise from 20 to 50 per cent in the interest of nutritional health. Obviously production must be increased to sustain such consumption, and better distribution methods must be devised the world over. Can this be done? First let us consider the matter of increased food production.

Professional pessimists, many of them willful, have long contended that the world simply cannot produce enough food to supply its increased population adequately, and that there is just no use talking about that. Suppose we examine that contention a little. We can obtain increased food production by more intensive and efficient use of the land now in cultivation, and by expanding production in areas having undeveloped soil resources. What are the possibilities?

Our own war experience has shown that the production of food crops can be maintained at 35 per cent above prewar years merely by intensive effort and the full use of modern agricultural technology. This includes regular and better fertilization, heavy nitrogen treatments in the growing of adapted hybride, early and shallow cultivation for weed control, and improved agricultural techniques generally to make 50-bushels-per-acre corn production the rule rather than the exception in many parts of the United States.

Our wartime production of corn, hay, wheat, rice, peanuts, sugar beets, potatoes, sweetpotatoes, soybeans were large, but they can be pushed up from 15 to 30 percent more without undue effort. Similar yield increases of these and other crops are quite possible in other countries. In fact 1960 world food needs could be met for sugar and for roots and tubers on existing crop land, merely by intensive cultivation and improved land use. The need for

cereals could almost be met, but production of other classes of food would fall short.

Land covered by snow and ice, tundra, mountains, and deserts totals very nearly half of the world's land area and has no practical agricultural possibilities. The best soils are already under cultivation, though some excellent alluvial soil could be reclaimed by drainage and irrigation, especially in the Tropics. The Red Soils remain almost untouched, however, in South America and Africa, and if only one-fifth of it were brought into cultivation, as is possible, that would add 900 million acres to the area available for world food production.

There are also uncultivated areas which could be used in the great islands of Borneo, Sumatra, New Guinea, and Madagascar, at least another hundred million acres. An additional 300 million acres of the Podzol soils located in northern Russia, Canada, and the United States could also be brought into cultivation. All told a huge body of 1,300,000,000 acres of new land could be called upon to produce food to satisfy the world's hunger.

These acres would on the average be less fertile than those now under cultivation and it would require heavy fertilization to maintain their productivity. Serious erosion would have to be prevented, especially in tropical areas. But these problems could be met. Assume that they were, apply comparable production standards to these new acreages, and what do we find about feeding the world's 1960 population adequately?

First assume that only the one billion additional acres of tropical soils are brought into production, are used intensively, and produce as well as cultivated soils in the Philippines now do. The world's 1960 overall food needs could be met for all classes of food, except meat, milk, pulses, and nuts. We could have more than enough cereals, roots and tubers, sugar, fats, oils, fruits, and vegetables for all people everywhere. If some cocoanut production were shifted from oil to edible nuts we could meet or exceed the need for legumes and nuts.

Suppose that 300 million acres of soil in the North Temperate Zone, not now cultivated, were added to present crop land and used as intensively as are Finnish soils at present. World food needs of 1960 could be met for cereals, roots, tubers, sugar, and milk, and that for fats and oils very nearly met.

Finally, suppose that present world cropland, the billion acres of tropical and the 300 million of north temperate soil were all used intensively. Then 1960 world food production would exceed world food needs for an adequate diet for all classes of foods except milk, legumes, and nuts. But, if a portion of the coconut production were shifted from coconut oil to edible oils, then all needs could be met and the production of cereals, roots and tubers, sugars, fats, and oils would be far in excess of the quantities required! Hence much less than all these sources of production are needed to meet current food requirements, if effort was spent primarily to produce foods in deficit.

The amounts of fertilizer used under these conditions would be eight times our present consumption of phosphate and eighteen times that of potash, but we have world reserves of the former for 5,000 and of the latter for 500 years. Actual reserves also probably exceed known reserves considerably. Plant capacity for the production of nitrogenous fertilizers using the nitrogen of the air could readily be expanded as much as needed. Can we mobilize these sources to produce the food required? The potentialities are there.

Here the staff activities of the Food and Agriculture Organization assume importance. This agency is to act as a clearing house for scientific information on food and agricultural subjects, and to show how the knowledge available can be used to aid individual nations in attaining greater efficiency in the production and distribution of agricultural products. At its Copenhagen Conference in September 1946 Director John Boyd Orr presented his plan for a World Food Board to the FAO.

This Board would have had authority and funds of its own to gear world food production to population needs, as estimated in terms of nutrition and health, and to stabilize prices at levels fair to both producers and consumers. But the FAO meeting was brief; time was lacking to consider details After a review of the world food situation before during, and after World War II, the United States delegate, Under Secretary of Agriculture Norris E. Dodd said:

"We are therefore strongly in favor of the *general objectives* laid down by Sir John Orr. In order to work out a plan for the achievement of these objectives, we recommend the establishment of an FAO Commission to work out in detail an international program for the stabilization of agricultural prices at levels which will be fair to producers and consumers, and which will bring about the improvement of nutrition throughout the world."

This statement unfortunately was distorted through press carelessness as an agreement in principle with Sir John's objectives and the way of attaining them. That it simply was not. An FAO Preparatory Commission therefore met in Washington, D. C., with 18 nations represented. Its object was to consider at length various plans for putting FAO's objectives into effect and, after reconciliation of natural differences in opinion on the part of the constituent nations, to report to the Director of FAO.

Here Mr. Dodd was construed as reversing the position he had taken at Copenhagen, which he did not do. He emphasized the difficulties and complications in the way, but again observed that the *objectives advanced* by Sir John could in some manner be achieved by international collaboration. These objectives were to develop and organize the production, distribution, and utilization of basic foods to provide diets on a health standard for the people of all countries; and to stabilize agricultural prices at fair levels.

Addressing the Preparatory Commission Mr. Dodd took at its opening session precisely the same position he had at Copenhagen, where he had at no time agreed in principle. He now said: "The Government of the United States firmly supports the

objectives, as agreed upon at the recent Conference of FAO in Copenhagen, of raising the people's diet to a health standard and of stabilizing agricultural prices at levels fair to both producers and consumers." These objectives, he said, were closely related.

He then proceeded to give what had not been required at Copenhagen, detailed suggestions of this country as to how the objectives should be achieved. He did criticize the manner in which Sir John felt that the World Food Board would attain the objectives. Other delegates from other nations likewise expressed their views. Later this was all gone into at great length in executive session, and this was the commission's function and procedure. Towards the end of January 1947 the commission concluded its work and announced its decision.

Instead of a World Food Board, with final authority and funds of its own, the commission's report recommended establishment of a World Food Council, on which all member nations would be represented. It would seek to achieve the oft-mentioned objectives announced by Sir John Boyd Orr. Moreover, there would be an annual review, at the FAO Conference, of national food and agricultural programs, so that each government could appraise its own plans on a world basis and coordinate its efforts accordingly.

World commodity agreements would be developed for wheat, sugar, rice, livestock products, fats and oils, fish, tea, cocoa, timber, cotton, and wool. These would include price ranges, export and import quotas, the setting up of famine reserves to be held nationally but to be used internationally on terms to be agreed-upon, the establishment of price-stabilization reserves or buffer stocks, and sales of quantities above commercial demand at special prices to supplement the diets of needy groups in various countries.

According to the plan recommended the 18-nation advisory World Food Council will review commodity situations, initiate commodity study groups, review operating and proposed commodity agreements and help prepare FAO's annual program review. Some conservatives still oppose the plan because it would place large segments of commerce under a new type of government control, and would require a high degree of control over food production and marketing by each nation within its own borders. This, however, is unavoidable and will have to be accepted if we really mean to appease the world's hunger for the first time in world history.

The plan suggested by the FAO Preparatory Commission must next be considered by the FAO Executive Committee, and then debated at the full Conference, probably to be held next fall, with 47 nations represented. The council idea would require an amendment to FAO's constitution, all members having four months notice before the change, if made, becomes effective. Finally, our own Congress must approve the suggested commodity agreements as measures to provide price stabilization and to build famine reserves.

The situation is urgent. Nothing could do more to head off future wars than the provision of adequate diets for all people. The starving children of today will grow into the warped men who will disrupt international affairs tomorrow. Today we face food shortages and chronic malnutrition; in a few years it will be gluts, surpluses, and food dumping, with millions still underfed. We have the land, the supplies, and the techniques to produce sufficient food for every person in the world to have an adequate diet.

Speaking to the American Association for the Advancement of Science in December 1946, C. F. Kettering said:

"Only 25 per cent of the 2,000,000,000 people of the earth are properly nourished. Only 500,000,000 ever get enough of the proper food. This is not because of natural limitations. We have the scientific knowledge to provide an adequate diet for everyone if the information were properly applied. The false barriers erected by man himself are responsible. The antiquated social systems, ignorance, stupidity, and fear prevent a large percentage of the peoples of the world from enjoying even the most fundamental of the benefits of science."

This is all too true. We must expand world consumption and world purchasing power far above the prewar level if we are to head off a disastrous slump. The Preparatory Commission's report at least suggests a rational starting point. If adopted, surpluses could be put to good use feeding the low-income undernourished, instead of going to waste. Their sale at special prices would not disturb the markets of food-exporting countries. A half-fed world cannot prosper, for we are all bound together as one today. And, as Sir John Boyd Orr has so well said, "If the nations cannot work together on food they can work together on nothing."

A case recently decided by the Supreme Court of Appeals of West Virginia illustrates the care that must be exercised by members of the medical profession in contracting to accept employment as members of the staff of hospitals and other medical institutions. Dr. Harold H. Cashman accepted such employment on the medical staff of Hopemont Sanitarium, an institution for the treatment of tubercular patients maintained by the State of West Virginia. He began his duties in January 1944 by contract with the West Virginia Board of Control. As an incident of his employment he was requested by a rule of the American Medical Association to remain in that position for a period of at least one year.

In October 1944, before the expiration of one year he was stricken with pulmonary tuberculosis. He was disabled and made bedfast by the disease. The probable duration of his disability was from two to two and one-half years from the inception of the disease. When he accepted employment in Hopemont Sanitarium he was in good health. He was required to attend 80 tubercular patients and in this work he was assisted by only three nurses. Due to the very dangerous and infectious nature of tuberculosis which can of course be communicated from an infected patient to doctors, nurses and others present by the transfer of its germs through the air from one to others, recognized current medical

standards require a larger staff of doctors and not less than 32 nurses to care for 80 patients.

According to the opinion of experts who testified the annual minimum of $230,000 in salaries was necessary to care for 80 patients, but the sum available for that year was only $192,000. Dr. Cashman brought to the attention of the authorities the fact that he had contracted the disease and asked for compensation for the disability which resulted from the disease.

His plight was brought to the attention of the State Legislature of West Virginia and a bill was passed, approved by the Governor, declaring it to be the moral obligation of the State to pay Dr. Cashman's claim of $2000. The claim was approved and the State Auditor was directed to issue a warrant for its payment from available funds appropriated for that purpose. The State Auditor then declined to pay Dr. Cashman on the ground that its payment would constitute an unauthorized gift of state funds to the plaintiff. Dr. Cashman was forced to commence an action for the recovery of the money rightfully appropriated to pay the expenses of his care.

The case came finally to the Supreme Court of Appeals of West Virginia. They took a very cold view of the position of Dr. Cashman. Looking at the question from a strictly legal viewpoint, the Court stated that the sole question involved was whether the complainant has a claim which the Legislature of West Virginia can lawfully recognize as a "moral obligation against the State". The Court held that the law is too well settled to be disputed that the Legislature can levy taxes only for public purposes and the tax raising authority cannot be exercised in the interest of a private person or enterprise. "The Legislature is to make laws for the public good and not for the benefit of individuals. It has control of public monies, and should provide for disbursing them only for public purposes."

As if this were not enough to deny the plaintiff his lawful claim, the Court held further and stated that when one enters upon a service he assumes to understand it and takes on all the ordinary risks that are incident to the employment and, performing such duties involving danger such as are plain and obvious he also assumes the risk of those.

When Dr. Cashman countered with the argument that the requirement of the American Medical Association required him to stay on the job for a minimum period of at least one year and so he was without power of leaving, the Court answered, "properly considered it (the requirement) did not compel him to continue his services under conditions which were dangerous to his health. With full knowledge of the obvious risks which attended his work he voluntarily elected to continue his employment. For this he is to be commended and admired. By so doing he rendered at a risk which became a reality a noble service to afflicted humanity."

Still the Court could not find in its own sense of humanity the power to award Dr. Cashman the money that had been set aside by the Legislature in partial compensation for the suffering he put through. A dissent was filed by one of the judges, but his was a voice in the wilderness, and in fact he did not even bother to write a dissenting opinion.

It is unfortunate that the Supreme Court of Appeals of West Virginia is so far in the Dark Ages of "assumption of risk" that it must deny a doctor his legitimate claim where working men in non-professional classes are no longer barred by that defense insofar as the Legislature's function is to make laws for the public good and not for the benefit of individuals as stated by the Court, are not many of the recent enactments of the United States and of all the states individually, attempts to aid private industry and in many cases benefit private persons all of which enactments go unchallenged? There are apparently still some high and respected Courts in the United States which distinguish between the interpretation of laws and the application of justice.

Yale School Of Medicine Develops New Method Of Extracting Hormone From Animal Glands

Yale School of Medicine scientists recently announced that they have developed a new method of extracting the powerful growth hormone from animal glands by a single process which produces a high yield of the product. This hormone may some day have important implications for the correction of growth deficiencies in children and for the repair of damaged or depleted tissues in adults.

The new technique developed at Yale consists of a series of biochemical steps by which the growth hormone is crystallized from extracts of the pituitary glands of cattle at freezing temperatures. The use of the hormone on human beings has not yet been tried and possible results are still conjectural. The growth hormone may prove of medical value in the treatment of persons with ailments in which improved nitrogen retention might be essential for the repair of damaged or depleted tissues.

Appropriations Of $460,000 By Markle Foundation

Nearly $460,000 was appropriated by the John and Mary R. Markle Foundation last year, chiefly to medical colleges and universities for research. Over 35 institutions shared the grants. The foundation now has a new program which will aid selected young scientists seeking careers in teaching and research in medical schools. It was undertaken to discover whether the Foundation "with its limited funds" was meeting "the greatest needs, in view of the rapid post-war increase in research funds for medical science."

Editorials

Direct Tube Examination Of The Lower Airways

Under the caption "Medical Progress". *New York Medicine* for September 5th 1948 publishes an article by Dr. Arthur J. Cracovaner whose experience in bronchoscopy has been extensive in the clinics at Lenox Hill and Bellevue Hospitals. Peering into the lower airways is no new thing. It is said to have been used first by Killian in Freiburg in 1898, who introduced a tube through a tracheotomy opening into the bronchi, but it is probably much older than that. Development and expansion of the uses of a lighted tube for inspection of the lower airways has been distinctively American, and for many of us the mention of the word "bronchoscopy" brings instantly to mind the name of Chevalier Jackson who began his work in Pittsburgh, then carried it on in Temple University, Philadelphia, where his son, Chevalier L. Jackson is walking in the steps of his aged father.

Objections to the procedure by general physicians have often been raised because it has been thought difficult, dangerous and a harrowing experience for every patient. It can be all of these, and so can almost any other of our numerous methods of testing and treating the human body. Dr. Cracovaner's purpose is to show that more good than harm can come from its use in properly-trained hands. One has objected to the limitation of being able to see only into the *larger* bronchi. This is valid, but we know that we must supplement almost any "finding" by other means in making a thorough diagnosis. All of the old methods of "doing a physical" still have a place, supported by fluoroscopy and x-ray pictures. Even so, we can very well use still additional aids.

Contraindications to bronchoscopic examination are relatively few, and they are becoming fewer. Cardiac failure is one, severe hemoptysis is another, but ordinary valvular lesions and a *moderate* amount of bleeding from a lung are no bar. Aneurysm is something else again. But the statement that a patient is "too sick to be bronchoscoped" may contribute to certain fatality. Too late is, indeed, a sad phrase but is often *de facto;* while too early is seldom an actuality. Judgment may be difficult here as elsewhere, but we must assume that the bronchoscopist wishes to bring relief to a living patient and not have a catastrophe staring at him for the rest of his life!

Certain signs and symptoms call for a bronchoscopy; for example chronic cough which goes on and on in spite of all treatment. Unexplained hemoptysis certainly demands direct tube inspection, —we *must know* where the bleeding comes from. Unilateral wheeze tells of some kind of bronchial obstruction with exudate. Pain in the chest with difficulty in breathing which is not of coronary origin, may be obscure. The bronchoscope may disclose the source of it.

Not only may one make a *diagnosis,* by looking through a tube, but he may *treat* the condition under direct vision by means of silver nitrate or electrocoagulation. The actual conditions mentioned by the author of this article are: 1. Bronchial obstructions, 2. Hemoptysis, 3. Lung abscess, 4. Bronchiectasis, 5. Tumors, 6. Tuberculosis, 7. Foreign body, 8. Asthma, 9. Acute laryngo tracheo bronchitis, 10. In operative surgery. There are others but these will suffice for present purposes.

The causes of bronchial obstruction may be outside the tube, in its wall or endobronchial. The position of the lesion may be exactly defined by bronchoscopy.

Hemoptysis may come from a lung infection (tuberculosis or a hemolysing streptococcus), pneumonitis, foreign body, or suppuration and dilatation with formation of a "lung pocket" (bronchiectasis).

Lung abscess is not uncommon,—in fact foreign body inspiration is a frequent cause. It can be diagnosed upon direct inspection, a culture can be taken, pus aspirated, and an antibiotic or antiseptic can be planted at the spot. The earlier bronchoscopy is done in these cases, the better the prognosis.

In bronchiectasis, there are recurrent attacks of pneumonitis. This calls for the finding of "a cause." One may discover a foreign body, a tumor or an exudate from whatever source. Dilatation of the involved bronchial walls is inevitable, infection takes place beyond the obstruction (distal to it) with fibrosis and all other elements of a chronic abscess. Fortunately, a bronchogram will determine the actual condition quite readily, its extent, and whether it is on one or both lungs.

Tumors in the lungs are not infrequent. Of the benign variety, adenoma is the most common, but chondromas, lipomas, polypi etc. are also found.

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NOVEMBER, 1948

Biopsy taken through direct inspection is of the greatest importance. The larger bronchi are usually the sites of such growths, and if they are extratubular as well as intratubular, lobectomy may be the procedure of choice. Carcinoma of a lung is, of course, extremely serious. It is seldom diagnosed early, that is before it has invaded other structures by metastasis. Cough and hemoptysis call for immediate direct tube inspection. Biopsy or curettement of granulations may supply sufficient material for the laboratory. However, one must emphasize the fact that a negative biopsy may not be conclusive for it is so easy to miss the actual site of mitosis. Fixity and rigidity are always suspect of malignancy and should be kept in mind. Surgery is not always feasible since so many patients are seen too late, but we must then have recourse to x-ray and radium.

Pulmonary tuberculosis is no contraindication to direct inspection unless seen in the terminal stage. Confluent tubercles may be the cause of the breaking down of lung tissue, and of the ulcerations and granulations met with. There may be masses attached by a pedicle. Removal by suction or electrocautery may be possible, and if so, temporary relief is obtained from the tubal obstruction. Direct use of streptomycin is still experimental, but offers some hope; in fact favorable reports are coming in from many sources.

Foreign bodies may not cast a shadow when examined by x-ray, but the bronchoscopist may sense them by touching with an instrument, even when they are covered by granulations. A good history is important but may not be obtainable; for example in small children, the intoxicated, or insane. Obscurity to x-ray may be caused by shadows of the heart or vertebrae.

Some may shudder when told that certain asthmas may be relieved by bronchoscopy and suction. Relaxation of the bronchial musculature may be obtained under general anesthesia which is preferred by some endoscopists. Local anesthesia is, however, the rule in almost all endoscopies.

Acute laryngo-tracheo-bronchitis has often gone under the name of "croup" or just plain bronchitis or "diphtheroid". It is seen in general practice and by pediatrists who may be loath to call a bronchoscopist. However, children do well under this procedure, which may be life-saving. Excessive exudate or formation of a membrane may be the cause of asphyxia.

In general surgery, a patient may regurgitate stomach contents and aspirate into the trachea and bronchi. Pneumonia which is often misnamed "ether pneumonia" may ensue. Prompt introduction of a tube and suction may be of paramount importance. In thoracic surgery, bronchoscopy aids in diagnosis and in establishing the pathology. Chest injuries are prone to "internal bleeding" and formation of excessive secretions. The thoracic surgeon wants to know just what he has to deal with before operation, insofar as possible.

Bronchoscopists are now telling us that passing a tube into the lungs for diagnosis and treatment is not a harrowing experience. Many patients in hospitals for chronic diseases undergo frequent direct inspection, and do not dread the "ordeal." The relief obtained seems to outweigh every unpleasant item likely to be met with.

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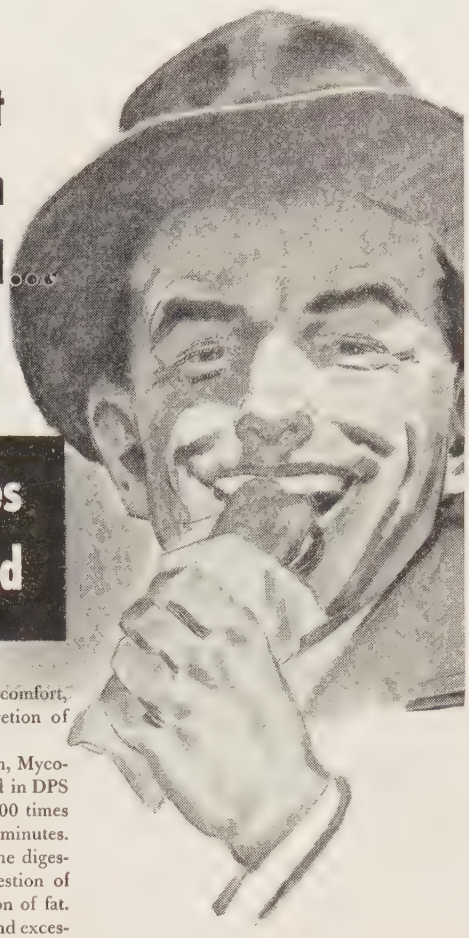

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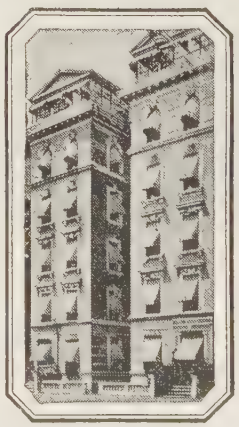

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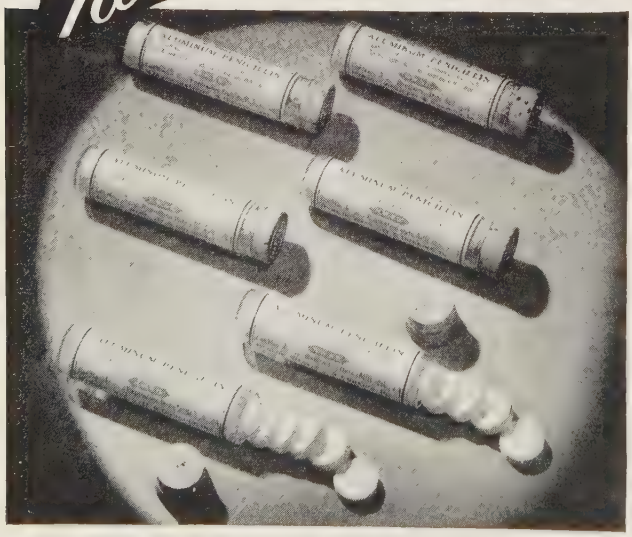

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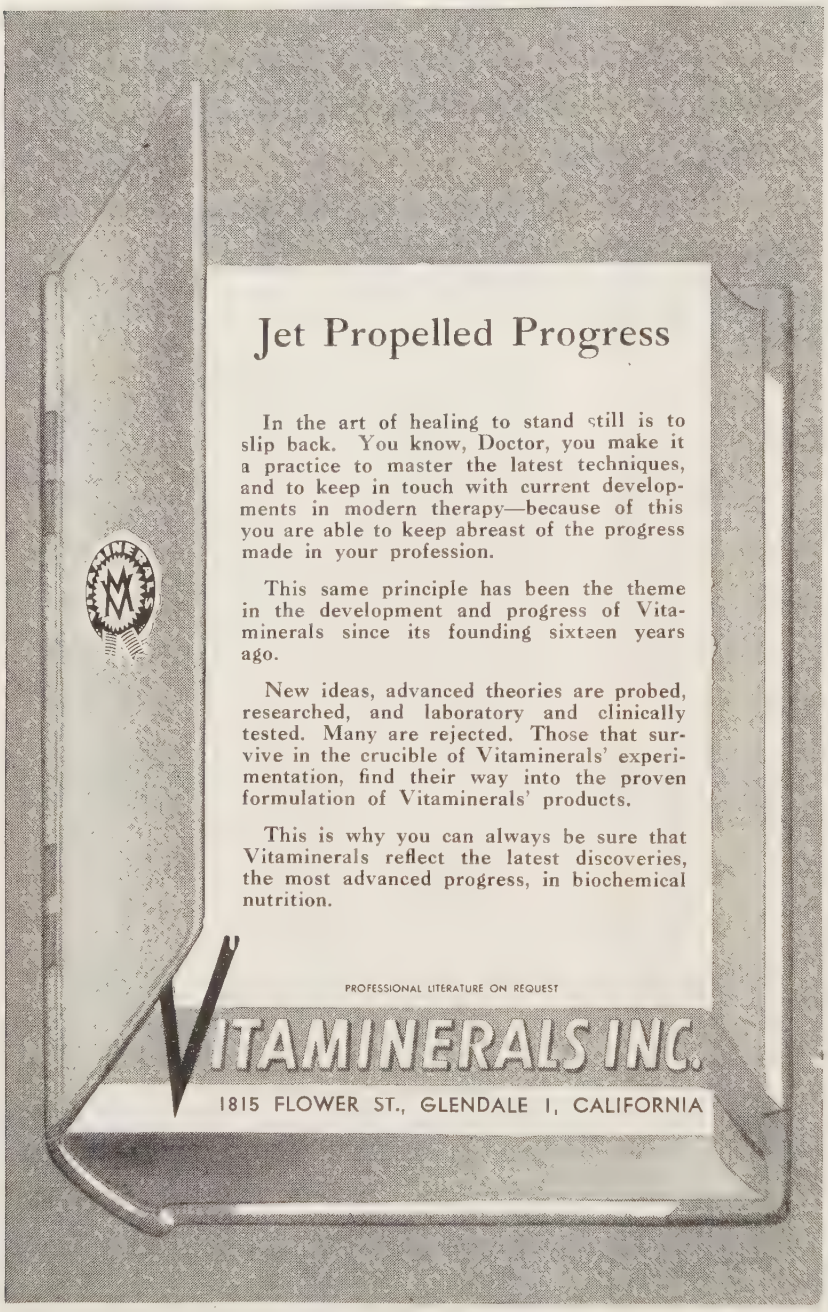
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Personals

Dr. Maurice Lev has been appointed assistant professor of pathology at the University of Illinois college of medicine. Dr. Lev previously served as a research associate in pathology and as director of research in the department of pathology at Michael Reese hospital. He held the position of assistant professor of pathology at Creighton University school of medicine in 1946-47.

Dr. Graham Taylor of the Allan Memorial Institute of Psychiatry, Montreal, has been selected as the first industrial psychiatry fellow in the School of Industrial and Labor Relations at Cornell University. Believed, to be the first of its kind, the fellowship is part of the school's new program to train psychiatrists for the industrial and labor relations field.

Dr. Frederic E. Elliott has been named a vice-president of United Medical Service, New York. Dr. Elliott has served the organization as director of medical services since it was founded in 1944. He was formerly head of the x-ray department of Cumberland Hospital, Prospect Heights Hospital, and Bay Ridge Hospital.

Oxygen Equipment Manufacturing Corporation has announced the appointment of *George R. Fairlamb* as general manager and assistant to the president. Mr. Fairlamb, for many years vice-president of Scully Walton and General Hospital Supply Service, will make his extensive knowledge of oxygen therapy service available to dealers and the inhalation therapy departments of hospitals.

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Dr. Cornelius H. Traeger was appointed Medical Director of the National Multiple Sclerosis Society. His present appointments are Attending Physician and co-chief of Arthritis Clinic at the Hospital for Special Surgery and Consulting Attending Physician in Internal Medicine and Chief of Arthritis Clinic at Roosevelt Hospital. He is a member of the Executive Committee of the New York Rheumatism Association, and of the Committee on Research and Education of the American Arthritis and Rheumatism Foundation.

The National Multiple Sclerosis Society was formed about two years ago to stimulate interest and finance research in multiple sclerosis and its many allied neurological diseases.

Dr. Clyde M. Berry has been appointed industrial hygienist in the medical department of Esso Standard Oil Co. As a chemical engineer as well as an industrial hygienist, Dr. Berry will be concerned with maintaining optimum health conditions through engineering controls in the company's operations. Before joining Esso Standard he was chief of the engineering section in the industrial hygiene division of the Public Health Service.

Dr. Robert C. Berson of Rye, N. Y., has been appointed Assistant Dean of the University of Illinois College of Medicine. It was also announced that Dr. Berson would serve as assistant director of clinics for the University of Illinois hospitals. Dr. Berson has been an attending physician at the United hospital, Port Chester, N. Y.

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BOOK REVIEWS

Anesthesia

Techniques and Procedures of Anesthesia. By JOHN ADRIANI, M. D., director, Department of Anesthesia Charity Hospital of Louisiana; clinical assistant professor of surgery (anesthesiology) Louisiana State University. Illustrated. Springfield, Ill.; Charles C. Thomas, 1947, Pp xii + 404. Price $6.00.

The author states in the first sentence of his Introduction, that "the technique of anesthesia cannot be learned from books." True, but that does not discourage the publication of them, judging from the lists. The basic fact is that nobody should subject a patient to temporary oblivion who is not well rooted and grounded, not only in the principles of administering anesthetics, but in the fine art of resuscitation . . . The anesthetist needs to know as much or more concerning the patient's clinical and life history as the surgeon. In this respect he is too often at a disadvantage, and knows it. Dr. Adriani says there is no such thing as "routine." Every patient must be seen as a "problem" which may be due to a physiologic, pharmaceutic, or pathologic background. The skill and dexterity of the surgeon may make a vast difference as to the time consumed on the table, amount of blood lost, handling of tissues in a way to produce shock etc. Chapter VI devotes some 76 pages to Resuscitation, including the "iron lung." Inhalation Therapy under the headings of oxygen, carbon dioxide-oxygen and helium-oxygen is described in the final chapter. There is no reference to penicillin, probably because this agent comes under a different category. Well-executed drawings and photographs make for the visual education of the reader.

Nose And Throat

Diseases of the Nose and Throat. By CHARLES J. IMPERATORI, M. D., F. A. C. S., consulting Laryngologist, Harlem Hospital, New York, and Nyack General Hospital, Nyack, N. Y.; consulting Bronchoscopist, Manhattan Eye, Ear and Throat Hospital, New York, Flower and Fifth Ave. Hospitals, New York, and Riker's Island Hospital, New York; HERMAN J. BURMAN, M. D., F. A. C. S., director of Department of Otolaryngology, Harlem Hospital, New York; instructor in Otolaryngology, College of Physicians and Surgeons, Columbia University, New York; assistant visiting Otolaryngologist, Presbyterian Hospital and Vanderbilt Clinic, New York. Third edition, with 480 illustrations. Philadelphia, Pa.: J. B. Lippincott Co., 1947. Pp xxvii + 576. Price $12.00.

As in previous editions, the arrangement of material is for the purpose of ready reference.

(*Continued on page* 552)

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NOSE AND THROAT

(*Continued from* page 550)

Symptoms, diagnosis and treatment come first, and are followed by etiology and pathology. The latter is granted a very special amount of space and is largely the work of Dr. A. A. Eggston, who has very recently brought out a work of his own of size and importance. Photographs and drawings illustrate the text and do much to clarify the origin and progress of diseases.

Since Dr. Imperatori has been an ardent worker in "direct tube examinations," the chapters on bronchoscopy and esophagoscopy are of especial interest and value.

Chapters on chemotherapy, the antibiotics, etc., are written with an eye to present-day medical thought and work, and the section on radiation therapy is satisfactory although by no means complete since we are really just beginning to understand more about dosage and effects in order to bring more help and less harm to the patient, especially in malignancy.

Symposium On Rehabilitation Held

A Symposium on rehabilitation was held on October 27th at New York University. This Symposium was the first of the fall meetings of the Association of Military Surgeons of the U. S. It included a demonstration of dynamic therapeutics in chronic disease.

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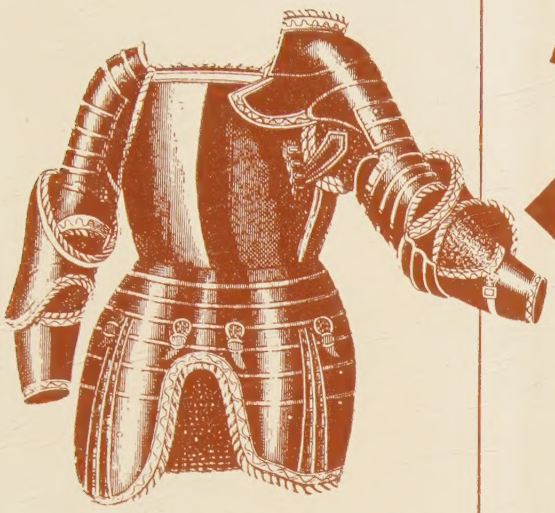

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